

PHARMACOLOGY MNEMONICS

for the
**FAMILY
NURSE
PRACTITIONER**

ILLUSTRATIONS BY MURHIEL CABERTE



N A C H O L E J O H N S O N



**Pharmacology
Mnemonics for the
Family Nurse
Practitioner**

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Illustrated by Murhiel Caberte

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ISBN-13: 978-1548378165

ISBN-10: 154837816X

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

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Chapter 1

Why I Wrote This Book

There's a lot to learn while you are in nurse practitioner school. Because of the time pressure, I really appreciated anything that would help me get through school. I've always been a visual learner, and it is easy for me to pick up information if I draw out pictures or play with words to make learning a complex issue easier. I loved using mnemonics when I was in nursing school, and that continued when I went to graduate school for my Family Nurse Practitioner degree.

I found it was easy for me to remember silly sayings during the test that would remind me of the right answer. Turns out, many other people like mnemonics too! I decided to write a book specifically for the Nurse Practitioner field. Pharmacology Mnemonics for the Nurse Practitioner is a general guide to pharmacology, meaning it will help you no matter your specialty. It is a bit of a cross between what you would expect from a book for nurses and one geared toward physicians.

Use this book as a guide to memorize common concepts and as a refresher for ones you haven't used in a while. Even when you are out of school and in practice, it is sometimes difficult to remember a concept you haven't used since the final exam. This is normal and happens to nurse practitioners and physicians alike. I still use silly mnemonics to remember things like the cranial nerves “**O**n **O**ld **O**lympus **T**owering **T**ops **A** **F**in **A**nd **G**erman **V**iewed **S**ome **H**ops,” anyone?

Use this book while you are in school and as a refresher when you finish. I've included extras for Nurse Practitioners like common pharmacological abbreviations, medication classifications, and medication antidotes. Have fun, learn, and enjoy!

Nachole

Chapter 2

Pharmacology Pearls



Pharmacology Abbreviations

ā before

ac before meals

AD right ear

AS left ear

AU both ears

bid twice a day

̄c with

cap capsule

EC enteric-coated

elix elixir

h or hr hour

hs hour of sleep

IM intramuscular

IV intravenous

IVP	intravenous push
NG	nasogastric
npo	nothing by mouth
OD	right eye
oint	ointment
os	mouth
OTC	over-the-counter
OS	left eye
OU	both eyes
⁻ p	after
pc	after meals
per	by
po	by mouth
pr	per rectum
prn	as needed
q	every
q1h	every 1 hour
q2h	every 2 hours
q3h	every 3 hours
q4h	every 4 hours
q6h	every 6 hours
q8h	every 8 hours
qd	every day
qh	every hour
qid	four times a day
⁻ s	without

SL Sublingual
 SR sustained release
 supp suppository
 syr syrup
 tab tablet
 tid three times a day

Official "Do Not Use" List from JCAHO

Do Not Use	Potential Problem	Use Instead
U, u (unit)	Mistaken for "0" (zero), the number "4" (four) or "cc"	Write "unit"
IU (international unit)	Mistaken for IV (intravenous) or the number 10 (ten)	Write "International Unit"
Q.D., QD, q.d. qd (daily) Q.O.D., QOD, q.o.d., qod (every other day)	Mistaken for each other Period over the Q mistaken for "I" and the "O" mistaken for "I"	Write "daily" Write "every other day"
Trailing zero (X.0 mg)* Lack of leading zero (.X mg)	Decimal point is missed	Write X mg Write 0.X mg
MS MSO4 and MgSO4	Can mean morphine sulfate or magnesium sulfate Confused for one another	Write "morphine sulfate" Write "magnesium sulfate"

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Drug Administration Routes

Enteral <i>Oral, Sublingual, Buccal, Rectal</i> Advantages: convenient, inexpensive, good absorption Disadvantages: Sometimes inefficient, 1st pass effect, irritates gastric mucosa, slow effect, unpleasant taste, can't use if unconscious	Parenteral <i>Intradermal, Subcutaneous, Intramuscular, Intravenous, Intraperitoneal, Intrathecal, Intraarticular, Intra arterial, Intra medullary</i> Advantages: rapid, can be used for unconscious, avoid gastric irritation Disadvantages: must maintain asepsis, painful, expensive, possible nerve injury
Topical <i>Skin, Eye or ear, Nose and Lungs</i> Advantages: high local concentration without systemic effect Disadvantages: slow onset, local reactions, limited to few drugs, systemic effect with tissue destruction	Inhalation <i>Through nose or mouth</i> Advantages: rapid onset, large surface area for absorption Disadvantages: most addictive, hard to regulate dosage

Routes of Entry:
Most Rapid Ways Meds/Toxins Enter Body
“Stick it, Sniff it, Suck it, Soak it”:
Stick = I njection
Sniff = I nhalation
Suck = I ngestion
Soak = A bsorption

Common Medication Classifications and Actions

Antacids- Reduce hydrochloric acid located in the stomach

Antianemics- Increases the production of red blood cells

Anticholinergics- Decreases oral secretions

Anticoagulants- Prevents the formation of clots

Anticonvulsants- Management of seizures or bipolar disorders

Antidiarrheals- Reduce water in bowels and gastric motility

Antihistamines- Block the release of histamine

Antihypertensives- Decreases blood pressure

Anti-infectives- To get rid of infections

Bronchodilators- Dilates the bronchi and bronchioles

Diuretics- Increase excretion of water/sodium from the body

Laxatives- Loosens stools and increases bowel movements

Miotics- Constricts pupils of the eye

Mydriatics- Dilates the pupils

Narcotics/analgesics- Relieves pain

Pharmacology Suffixes

- **-amil:** calcium channel blockers
 - **-caine:** local anesthetics
 - **-cycline:** antibiotics
 - **-dine:** anti-ulcer agents (H2 histamine blockers)
 - **-done:** opioid analgesics
 - **-ine:** antidepressants, calcium channel blockers
 - **-ide:** oral hypoglycemics
 - **-pam:** anti-anxiety agents
 - **-oxacin:** broad spectrum antibiotics
 - **-micin:** antibiotics
 - **-mide:** diuretics
 - **-mycin:** antibiotics
 - **-nuim:** neuromuscular blockers
 - **-olol:** beta blockers
 - **-pam:** anti-anxiety agents
 - **-pine:** calcium channel blockers
 - **-pril:** ace inhibitors
 - **-sone:** steroids
 - **-statin:** antihyperlipidemics
 - **-vir:** anti-virals
 - **-xacin:** antibiotics
 - **-zide:** diuretics
 - **-zine:** antipsychotics
-

Viral Drugs- "-vir at start, middle or end means virus": •

Example Drugs:

Abacavir	Norvir
Acyclovir	Oseltamivir
Amprenavir	Penciclovir
Cidofovir	Ritonavir
Denavir	Saquinavir
Efavirenz	Valacyclovir
Indavir	Viracept
Invirase	Viramune
Famvir	Zanamivir
Ganciclovir	Zovirax

Medication Antidotes

Alcohol Withdrawal	Librium
Anticholinergics	Physostigmine
Anticoagulants	Vitamin K, FFP
Asprin	Sodium bicarbonate
Benzodiazepines	Romazicon (Flumazenil)
Beta Blockers	Glucagon
CCB	Calcium, glucagon, insulin
Cholinergic Meds	Atropine, pralidoxime (2-PAM)
Coumadin	Vitamin K
Cyanide	Tyhydroxycobalamin, sodium thiosulfate
Digoxin	Digiband
Ethylene glycol	Fomepizole, ethanol
Heparin	Protamine Sulfate
Hydrofluoric acid	Calcium Gluconate
Insulin	Glucose
Isoniazid	Deferoxamine
Iron	Deferoxamine
Magnesium Sulfate	Calcium Gluconate
Methanol	Ethanol
Methemoglobin	Methylene blue
Methotrexate	Leucovorin
Opiates	Narcan
Tricyclic antidepressant	Sodium bicarbonate
Tylenol	Mucomyst

Pharmacology Conversions

Volume
1 kiloliter = 1,000 liters = 1 cubic meter
1 liter = 1,000 milliliters = 1,000 cc
1 milliliter = 1 cc
1 fluid ounce = 29.57 milliliters
1 US gallon = 3.785 liters
1 Imperial gallon = 4.546 liters
Weight
1 kilogram = 1,000 grams = 2.2 pounds
1 gram = 1,000 milligrams = 0.035 ounce
1 milligram = 1,000 micrograms = 1/1,000 gram
1 microgram = 10^{-6} grams = 1/1,000 milligram
1 pound = 0.45 kilogram = 16 ounces
1 ounce = 28.35 grams

Additional Conversions:

$$2.2 \text{ lbs} = 1 \text{ kg}$$

$$15 \text{ gr} = 1 \text{ g} = 1,000 \text{ mg}$$

$$1 \text{ gal} = 4 \text{ qt} = 128 \text{ oz} = 400 \text{ mL}$$

$$1 \text{ pt} = 16 \text{ oz} = 480 \text{ mL}$$

$$2 \text{ Tbsp} = 1 \text{ oz} = 8 \text{ dr} = 30 \text{ mL}$$

$$15 \text{ gtt} = 15 \text{ minum} = 1 \text{ mL} = 1 \text{ cc}$$

$$1 \text{ lb} = 16 \text{ oz}$$

$$1 \text{ gr} = 65 \text{ mg}$$

$$1 \text{ qt} = 2 \text{ pt}$$

$$1 \text{ L} = 1,000 \text{ mL}$$

$$1 \text{ cup} = 8 \text{ oz} = 240 \text{ mL}$$

$$1 \text{ tsp} = 60 \text{ gtt} \quad 1 \text{ dr} = 4 \text{ mL}$$

$$1 \text{ gtt} = 1 \text{ minim}$$

$$1 \text{ oz} = 30 \text{ g}$$

$$1 \text{ mg} = 1,000 \text{ mcg}$$

Therapeutic dosage: toxicity values for most commonly monitored medications

"The magic 2s":

Digitalis (.5-1.5) Toxicity = 2.

Lithium (.6-1.2) Toxicity = 2.

Theophylline (10-20) Toxicity = 20.

Dilantin (10-20) Toxicity = 20.

APAP (1-30) Toxicity = 200.

Chapter 3

Cardiology

ACE inhibitor side effects (CAPTOPRIL)

- Cough
- Angioedema
- Proteinuria
- Taste disturbance/ Teratogenic in 1st trimester
- Other (fatigue, headache)
- Potassium increased
- Renal impairment
- Itch
- Low BP (1st dose)

Alternative - CRAP PILOT

C ough

R enal impairment

A naphylaxis

P alpitations

P otassium elevated

I mpotence

L eukocytosis

O rthostatic hypotension

T aste

Beta blockers: B1 selective vs. B1-B2 non-selective
<i>A through N: B1 selective:</i> Acebutalol, Atenolol, Esmolol, Metoprolol.
<i>O through Z: B1, B2 non-selective:</i> Pindolol, Propanalol, Timolol.

Beta-1 vs. Beta-2 receptor location

"You have 1 heart and 2 lungs":

Beta-1 acts primarily on heart.

Beta 1 selective blockers	
 "BEAM me up, Scotty!"	Beta 1 blockers: Esmolol Atenolol Metropolol

Beta-blockers:

Nonselective Beta-blockers:

"Tim Pinches His Nasal Problem"
(because he has a runny nose...):



Timolol
Pindolol
Hismolol
Naldolol
Propranolol

Beta-blockers: Side effects
"BBC Loses Viewers In Rochedale":



Bradycardia
Bronchoconstriction
Claudication
Lipids
**Vivid dreams &
nightmares**
Inotropic action
**Reduced sensitivity
to hypoglycemia**

Ca++ Channel Blockers: Uses- CA++ MASH:

Cerebral vasospasm/ CHF
Angina
Migraines
Atrial flutter, fibrillation
Supraventricular tachycardia
Hypertension

Alternatively: "CHASM":

Cerebral vasospasm / CHF
Hypertension
Angina / Atrial flutter, fibrillation
Supraventricular tachyarrhythmia
Migraines

Antiarrhythmic: Classification

I to IV MBA College

In order of class I to IV:

M embrane stabilizers (class I)
B eta blockers (class II)
A ction potential widening agents (class III)
C alcium channel blockers (class IV)

Amiodarone: Action, Side Effects 6 P's:
P rolongs action potential duration
P hotosensitivity
P igmentation of skin
P eripheral neuropathy
P ulmonary alveolitis and fibrosis
P eripheral conversion of T4 to T3 is inhibited -> hypothyroidism

Direct sympathomimetic catecholamines DINED:

D	I	N	E	D
O P A M I N E	S O P R O T E R E N O L	O R E P I N E P H R I N E	P I N E P H R I N E	O B U T A M I N E

Atrial arrhythmias “ABCDE”

A	B	C	D	E
ANTI COAGU LANTS	BETA BLOCKERS	CALCIUM CHANNEL BLOCKERS	DIGOXIN	ELECTROCARDIOVERSION

Chapter 4

Pulmonary

Pulmonary Infiltrations Inducing Drugs

"Go BAN Me!"

Gold
B leomycin/ B usulfan/ B iCNU A miodarone/ A cyclovir/ A zathioprine N itrofurantoin
M elphalan/ M ethotrexate/ M ethysergide

Antibiotics for TB

STRIPE:

ST	R	ISONIAZID	PYRAZINAMIDE	ETHAMBUTOL
R	I			
E	F			
P	A			
T	M			
O	P			
M	I			
Y	C			
C	I			
I	N			
N				

Alternatively, **RESPI**ration

Rifampicin

Ethambutol

Streptomycin

Pyrazinamide

Isoniazid

Asthma Drugs: Leukotriene Inhibitor Action



zAfirlukast: Antagonist of lipoxygenase

zIlueton: Inhibitor of LT receptor

Zafirlukast, Montelukast, Cinalukast: Mechanism & Usage

"Zafir-**luk**-ast, Monte-**luk**-ast, Cina-**luk**-ast": Anti-**Leuk**otrienes for Asthma.

Clinical pearl: Zafirlukast antagonizes leukotriene-4.

Medicines for Asthma

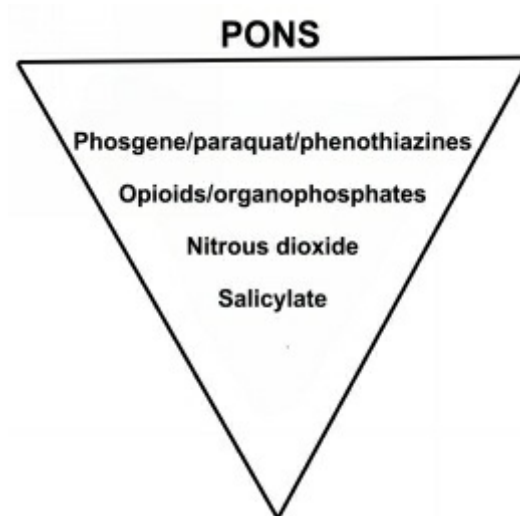
A gonist of beta receptors and Antagonist of leukotriene
S teroids
T heophylline – relaxes bronchial muscles
H istamine antagonist as prophylactic
M ucolytics – acetylcysteine (Fluimucil)
A ntibiotics

IprAtropium action: *Atropine* is buried in the middle, so it behaves like Atropine.

Respiratory depression inducing drugs "STOP breathing":



Non-Cardiac Causes of Pulmonary Edema: PONS



Pulmonary edema “MAD DOG”

	Morphine
	Aminophylline
	Digitalis
	Diuretics
	Oxygen
	Gases

Chapter 5

Antibiotics/Antivirals

Sulfonamide: Major Side Effects....SSSS



Steven-Johnson syndrome
Skin rash
Solubility low (causes crystalluria)
Serum albumin displaced (Causes newborn kernicterus and potentiation of other serum albumin- binders like warfarin)

**Quinolones [and Fluoroquinolones]:
mechanism**

"Topple the Queen":



Quinolone interferes with Topoisomerase II.

Nitrofurantoin: Major Side Effects NitroFurAntoin:

Neuropathy (peripheral neuropathy)

Fibrosis (pulmonary fibrosis)

Anemia (hemolytic anemia)

Antibiotics Contraindicated During Pregnancy MCAT:



Metronidazole

Chloramphenicol

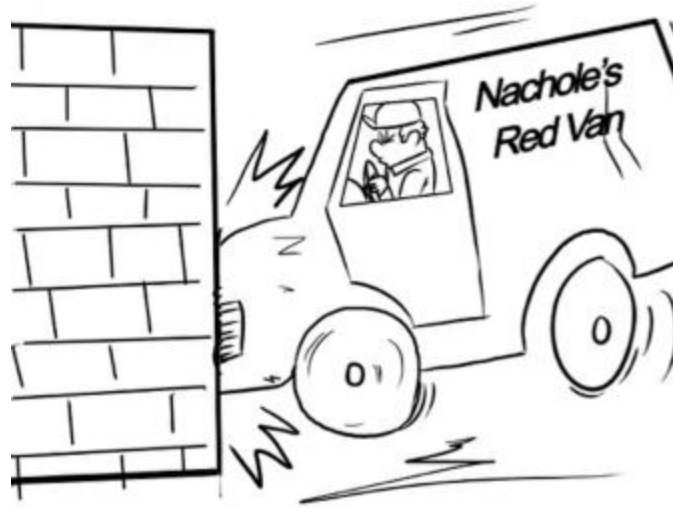
Aminoglycoside

Tetracycline

Tetracycline: Teratogenicity

TEtracycline is a **T**Eratogen that causes staining of **T**Eeth in the newborn.

Vancomycin - "A Red Van Drove Into The Wall"



Antihistamines (prevents red man syndrome)

Red man syndrome

Vancomycin

DAla DAla (terminal end of pentapeptide)

Inhibitor

Thrombophlebitis

Wall (cell wall)

Amphotericin Toxicities:

AMPHOTERICIN B

Anemia

Muscle spasms

Phlebitis

Headaches/**H**ypotension/**H**ypokalemia

Other reactions (leukopenia, Increased LFT's)

Thrombocytopenia

Emesis/**E**ncephalopathy

Respiratory stridor

Increased temperature (fever)

Chills

ImmEDIATE hypersensitivity (anaphylaxis)

Nephrotoxicity

Bronchospasm

Anti An**X**iety = Bu**X**pirone

Bu**PROPER**ion = **PROPER** habits (no smoking)

It's used for smoking *cessation*.

The Use Of Propranolol For PERFORMANCE ANXIETY.

Take pr**OPRA**-nolol if you wanna talk to **OPRA**h!!!



Propranolol is the beta-blocker with the strongest sedation effect. Just thinking of talking to Oprah can cause migraines, essential tremors and arrhythmias (the other 3 uses of the drug).

Delirium-Causing Drugs

ACUTE CHANGE IN MS:

Antibiotics (biaxin, penicillin, ciprofloxacin)

Cardiac drugs (digoxin, lidocaine)

Urinary incontinence drugs (anticholinergics)

Theophylline

Ethanol

Corticosteroids

H₂ blockers

Antiparkinsonian drugs

Narcotics (esp. meperidine)

Geriatric psychiatric drugs

ENT drugs

Insomnia drugs

NSAIDs (e.g. indomethacin, naproxen)

Muscle relaxants

Seizure medicines

Tricyclic Antidepressants: Meds Worth Knowing



"I have to hide, the CIA is after me":
Clomipramine Imipramine Amitriptyline

• **The next 3 worth knowing,**
"The DND is also after me":
Desipramine Nortriptyline Doxepin

Serotonin Syndrome: Components Causes HARM:

Hyperthermia,
Autonomic Instability (delirium)
Rigidity
Myoclonus

SSRIs: Side Effects SSRI:

Serotonin syndrome
Stimulate CNS
Reproductive dysfunction in male

Insomnia

Depression: 5 Drugs Causing It: PROMS



PROPRANOLOL	RESERPINE	ORAL CONTRACEPT IVES

Benzodiazapines

Benzodiazapines: Those not metabolized by the liver (safe to use in liver failure)

LOT: Lorazepam Oxazepam Temazepam



Benzodiazepines: Actions

"Ben **SCAMs** Pam into seduction not by brain but, by muscle":



Sedation

anti-Convulsant

anti-Anxiety

Muscle relaxant

Not by brain: No antipsychotic activity

Benzodiazepines: Drugs Which Decrease Their Metabolism

"I'm Overly Calm":

Isoniazid

Oral contraceptive pills

Cimetidine

These drugs increase the calming effect of BZDs by retarding metabolism.

Benzodiazepines: Antidote "Ben is off with the Flu":

Benzodiazepine effects off with Flumazenil.

MAOIs: Indications MAOI'S:

Melancholic [classic name for atypical depression]

Anxiety

Obesity disorders [anorexia, bulimia]

Imagined illnesses [hypochondria]

Social phobias

* Listed in decreasing order of importance.

· Note **MAOI** is inside MelAnchOlIc



Monoamine Oxidase Inhibitors:

Members "**PIT** of despair":

Phenelzine

Isocarboxazid

Tranylcypromine

A **PIT** of despair, since MAOIs treat depression

Lithium: Side Effects LITH:

Leukocytosis

Insipidus [diabetes insipidus, tied to polyuria]

Tremor/ Teratogenesis

Hypothyroidism

Chapter 6
Pain

**Beneficial Effects Of Inhibition of Prostaglandin
Synthesis i.e. Acetaminophen And NSAIDs (5 A's)**



Analgesia
Antipyretic
Anti-inflammatory
Antithrombotic
Arteriosus

(NSAIDs for closure of patent ductus arteriosus)

NSAID Contraindications

N ursing and pregnancy
S erious bleeding
A llergy/ A sthma/ A ngioedema
I mpaired renal function
D rug (anticoagulant)

Names of Common NSAIDs: CAIN

Celebrex
Asprin
Indomethicin/Ibuprofen
Naproxen

Alternatively, **NSAIDS**

Naproxen
Salicylates
Advil
Ibuprofen
Diclofenac
Sulindac

Narcotics: Side Effects

"SCRAM If You See A Drug Dealer":



S ynergistic CNS depression with other drugs
C onstipation
R espiratory depression
A ddiction
M iosis

Morphine: Effects MORPHINES:

M iosis
O rthostatic hypotension
R espiratory depression
P ain suppression
H istamine release/ H ormonal alterations
I ncreased ICP
N ausea
E uphoria
S edation

Morphine Side-Effects: MORPHINE:

M iosis
O ut of it (sedation)
R espiratory depression
P neumonia (aspiration)
H ypotension
I nfrequency (constipation, urinary retention)
N ausea
E mesis

Opioids: μ -Receptor Effects "MD CARES":



Miosis
Dependency
Constipation
Analgesics
Respiratory depression
Euphoria
Sedation

Opioids: Effects BAD AMERICANS:

B radycardia & hypotension
A norexia
D iminished pupillary size
A nalgesics
M iosis
E uphoria
R espiratory depression
I ncreased smooth muscle activity (biliary tract constriction)
C onstipation
A meliorate cough reflex
N ausea and vomiting
S edation

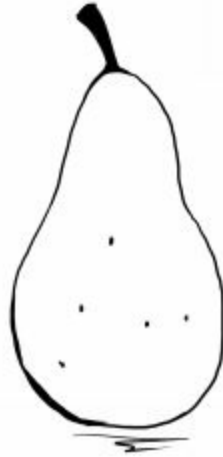
Narcotic Antagonists

The **N**arcotic **A**ntagonists are **N**Aloxone and **N**Altrexone.

They treat narcotic overdose.



Morphine: Effects At mu -Receptor PEAR:



P hysical dependence
E uphoria
A nalgesia
R espiratory depression

Aspirin: Side Effects ASPIRIN:

Asthma
Salicyalism
P eptic ulcer disease/ P hosphorylation-oxidation uncoupling/ PPH / P latelet disaggregation/ P remature closure of PDA
I ntestinal blood loss
R eye's syndrome
I diosyncrasy
N oise (tinnitus)



Chapter 7

Endocrine/Immunology

Side Effects Of Systemic Corticosteroids (CORTICOSTEROIDS)

Cushing's syndrome
Osteoporosis
Retardation of growth
Thin skin, easy bruising
Immunosuppression
Cataracts and glaucoma
Oedema
Suppression of HPA axis
Teratogenic
Emotional disturbance
Rise in BP
Obesity (truncal)
Increased hair growth (hirsutism)
Diabetes mellitus
Striae

Steroid Side Effects CUSHINGOID:

Cataracts
Ulcers
Skin: striae, thinning, bruising

H ypertension/ H irsutism/ H yperglycemia
I nfections
N ecrosis: avascular necrosis of the femoral head
G lycosuria
O steoporosis, O besity
I mmunosuppression
D iabetes

Steroids (6 S's)

S ugar (hyperglycemia)
S oggy bones (causes osteoporosis)
S ick (decreased immunity)
S ad (depression)
S alt (water and salt retention)
S ex (decreased libido)

Steroids: Side Effects BECLOMETHASONE:

B uffalo hump
E asy bruising
C ataracts
L arger appetite
O besity
M oon face
E uphoria
T hin arms & legs
H ypertension/ H yperglycemia
A vascular necrosis of femoral

head
S kin thinning
O steoporosis
N egative nitrogen balance
E motional liability

Drugs to Use in Rheumatoid Arthritis: MS. AHILA



M - Methotrexate
S - Sulfasalazine
A - Adalimumab
H - Hydroxychloroquine
I - Infliximab
L - Leflunomide
A - Abatacept

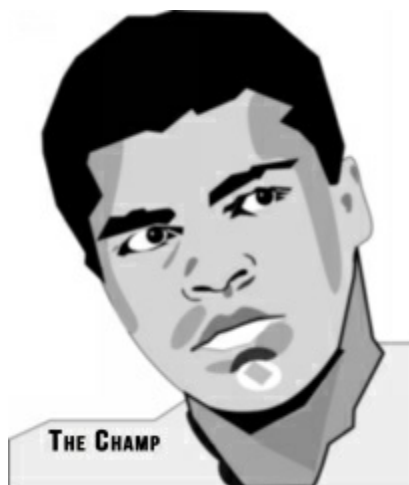
Busulfan: Features ABCDEF:

A lkylating agent
B one marrow suppression s/e
C ML indication

D ark skin (hyperpigmentation) s/e
E ndocrine insufficiency (adrenal) s/e
F ibrosis (pulmonary) s/e

Antirheumatic Agents (Disease Modifying):

CHAMP:



C yclophosphamide
H ydroxychloroquine and chloroquine
A uranofin and other gold compounds
M ethotrexate
P enicillamine

Auranofin, Aurothioglucose: Category And Indication

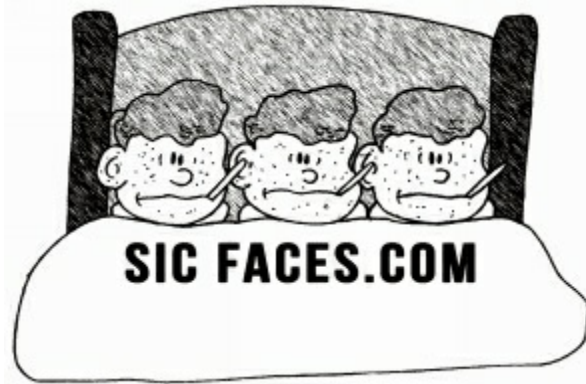
Aurum is Latin for "gold" (gold's chemical symbol is Au).

Generic **Aur-** drugs (**Auranofin**, **Aurothioglucose**) are gold compounds.

Gold's indication is rheumatoid arthritis,

AUR- Acts Upon Rheumatoid.

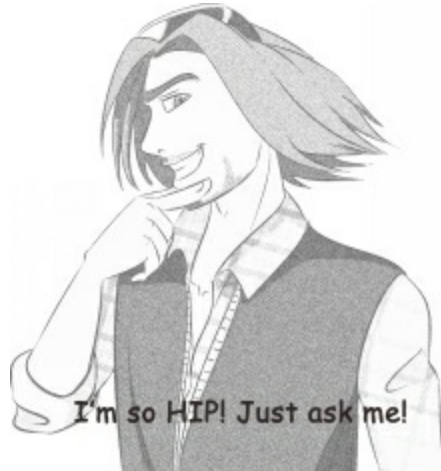
Enzyme Inhibitors: “SICKFACES.COM



S odium valproate
I soniazid
C imetidine
F luoxetine
A lcohol
E rythromycin and clarithromycin
S ulphonamides
C iprofloxacin
O meprazole
M etronidazole

Lupus: Drugs Inducing It.

HIP:



H ydralazine
I NH
P roca <u>i</u> namide

Chapter 8

GI/Liver

Zero Order Kinetics Drugs (most common ones)
"PEAZ (sounds like pees) out a constant amount":

Phenytoin
Ethanol
Aspirin
Zero order

Someone that pees out a constant amount describes zero order kinetics (always the same amount out).

Hepatic Necrosis: Drugs Causing Focal To Massive Necrosis

"Very Angry Hepatocytes":

Valproic acid
Acetaminophen
Halothane

Principles of management in toxicology

RESS

Reduce absorption
Enhance elimination
Specific antidote
Supportive treatment

8 A's for Hepatotoxic Drugs

A nti-tuberculosis
A nticonvulsant
S odium luminal
G abapentin
P henytoin
T egretol
A nticancer
A spirin
A lcohol
A ntifamily (contraceptive pills)
A cetaminophen
A fatoxins

Inhibitors of p450:

Inhibitors Stop Cute Kids from Eating Grapefruit.

I NH
S ulfonamides
C imetidine
K etoconazole
E rythromycin
G rapefruit juice

IC(see) KEGS (going down)



INH
Cimetidine
Ketoconazole
Erythromycin
Grapefruit
Sulfonamides

Chapter 9

GU/Reproductive

Diuretics:



Thiazides Indications: “CHIC”

C ongestive Heart failure
H ypertension
I nsipidus
C alcium calculi

Osmotic Diuretics: Members GUM:



Glycerol
Urea
Mannitol

Teratogenic Drugs "W/ TERATOgenic":

Warfarin

Thalidomide

Epileptic drugs: phenytoin, valproate, carbamazepine

Retinoid

ACE inhibitor

Third element: lithium

OCP and other hormones (e.g. danazol)

Gynecomastia-Causing Drugs DISCO:

D igoxin	I soniazid	S piroinolactone	C imetidine	O estrogens
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Alternative,

Gynecomastia Causing Drugs - DISCO 2MTV



Digoxin

Isoniazid

Spirolactone

Cimetidine

Oestrogens

Methyldopa

Metronidazole

TriCyclic Antidepressants

Verapamil

Sex Hormone Drugs: Male "Feminine Males Need Testosterone":

Fluoxymesterone

Methyltestosterone

Nandrolone

Testosterone

Teratogenic Drugs: Major Non-Antibiotics TAP CAP:



Thalidomide **A**ndrogens **P**rogestins

Corticosteroids **A**spirin & indomethacin **P**henytoin

Don't Use 'Safe CT' in Pregnancy



S ulfonamide
A minoglycoside
F louroquinolones
E rythromycin
C larithromycin
T etracycline

Drugs Causing Erectile Dysfunction

STOP Erection



SSRI (fluoxetine)
Thioridazine
Methyldopa
Propranolol

Uterine Relaxants “It’s Not My Time”



Indomethacin
Nifedipine
Magnesium
Terbutaline

Chapter 10

Hematology

Drugs That Potentiate Warfarin (O DEVICES)

• O meprazole
• D isulfiram
• E rythromycin
• V alproate
• I soniazid
• C iprofloxacin and C imetidine
• E thanol (acutely)
• S ulphonamides

Drugs That Decrease The Effectiveness Of Warfarin (PC BRAS)



P henytoin
C arbamazepine
B arbiturates
R ifampicin
A lcohol (chronic use)
S ulphonylureas

Thrombolytic Agents USA:



Urokinase Streptokinase

Alteplase (tPA)

***Enoxaparin (prototype low molecular weight heparin): action, monitoring
EnoXaprin only acts on factor Xa. Monitor Xa concentration, rather than
APTT.***

Warfarin: Action, Monitoring - We PT:

Warfarin works on the **E**xtrinsic pathway and is monitored by **PT**.

Warfarin: Metabolism SLOW:

- Has a slow onset of action.
- A quick Vitamin K antagonist, though.



Small lipid-soluble molecule

Liver: site of action

Oral route of administration.

Warfarin

Lead poisoning: presentation ABCDEFG:



A nemia
B asophilic stripping
C olicky pain
D iarrhea
E ncephalopathy
F oot drop
G um (lead line)

Chapter 11

Neuro

Side Effects Of Sodium Valproate (VALPROATE)

Vomiting
Alopecia
Liver toxicity
Pancreatitis/ Pancytopenia
Retention of fat (weight gain)
Oedema (peripheral)
Anorexia
Tremor
Enzyme inhibitor

Antimuscarinics: Members, Action

"Inhibits Parasympathetic And Sweat":

I pratropium	Pi renzepine	At rop i ne	S copolamine
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Muscarinic receptors at all parasympathetic endings sweat glands in sympathetic.

CARE Drugs To Treat Alzheimer's

Cognex

Aricept

REminyl

Exelon

Muscarinic effects SLUG BAM:



Salivation/ Secretions/ Sweating

Lacrimation

Urination

Gastrointestinal upset

Bradycardia/ Bronchoconstriction/ Bowel movement

Abdominal cramps/ Anorexia

Miosis

Cholinergic Crisis: SLUDGE

SLUDGE

Salvation
Lacrimation
Urination
Defecation
Gastric upset
Emesis

Epilepsy Types, Drugs Of Choice:

"Military General Attacked Weary Fighters Proclaiming 'Veni Vedi Veci'"



After Crushing Enemies":

- Epilepsy types: Myoclonic, Grand mal, Atonic, West syndrome. Focal, Petit mal (absence)
- Respective drugs: Valproate Valproate Valproate ACTH
Carbamazepine Ethosuximide

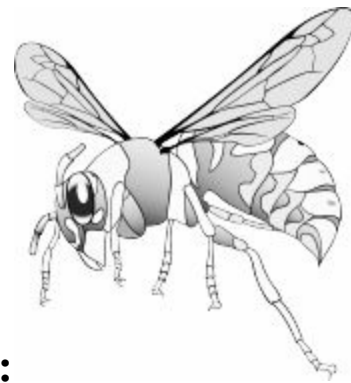
Migraine: Prophylaxis Drugs

"Very Volatile Pharmacotherapeutic Agents For Migraine Prophylaxis":

V erapamil
V alproic acid
P izotifen
A mitriptyline
F lunarizine
M ethysergide
P ropranolol

Physostigmine vs. Neostigmine LMNOP:

L ipid soluble
M iotic
N atural
O rally absorbed well
P hysostigmine



Neostigmine, on the Contrary, Is:

W ater soluble
A dministered in myasthenia gravis
S ynthetic
P oor oral absorption



SIADH-Inducing Drugs ABCD:

A nalgesics: opioids, NSAIDs
B arbiturates

Cyclophosphamide/ Chlorpromazine/ Carbamazepine
Diuretic (thiazide)

Phenobarbital: Side Effects

Children are annoying <i>(hyperkinesia, irritability, insomnia, aggression).</i>
Adults are dozy <i>(sedation, dizziness, drowsiness)</i>

Phenytoin: adverse effects PHENYTOIN:

P -450 interactions
H irsutism
E nlarged gums
N ystagmus
Y ellow-browning of skin
T eratogenicity
O steomalacia
I nterference with B12 metabolism (hence anemia)
N europathies: vertigo, ataxia, and headache

Anticholinergic Side Effects

"Know the ABCD'S of anticholinergic side effects":

A norexia
B lurry vision
C onstipation/ C onfusion
D ry Mouth
S edation/ Stasis of urine

Myasthenia Gravis: Edrophonium Vs. Pyridostigmine

eDrophonium is for **D**iagnosis.

py**RID**ostigmine is to get **RID** of symptoms.



Cholinergics (e.g. Organophosphates): Effects

If you know these, you will be "LESS DUMB":



Lacrimation

Excitation of nicotinic synapses

Salivation

Sweating

Diarrhea

Urination

Micturition

Bronchoconstriction

Methyldopa:

Side Effects METHYLDOPA:

Mentally challenged

Electrolyte imbalance

Tolerance

Headache/ **H**epatotoxicity

ps**Y**chological upset

Lactation in women

Dry mouth

Oedema

Parkinsonism
Anemia (hemolytic)

Botulism Toxin: Action, Related Bungarotoxin

Action: "Botulism Bottles up the Ach so it can't be the released":

Related bungarotoxin: "Botulism is related to Beta Bungarotoxin (beta-, not alpha-bungarotoxin--alpha has different mechanism).

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